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**********02918**********
PAGE 1
FOCUS - 1 OF 13 PATENTS

5,593,951

<=2> GET 1st DRAWING SHEET OF 4

Jan. 14, 1997

Epitaxy of high T[C]superconductors on silicon

INVENTOR: Himpsel, Franz J., Mt. Kisco, New York

SUM:
... even farther the temperature range over which the materials are superconducting, as well as to understand the basic mechanisms for superconductivity in this class of materials.

Bednorz and Mueller first showed superconducting behavior in mixed copper-oxides, typically including rare earth and/or rare earth-like elements and alkaline earth elements, for example La, Ba, Sr, . . . , and having a perovskite-like structure.

Materials including the so called "1-2- ...

FOCUS - 2 OF 13 PATENTS

5,466,646

<=2> GET 1st DRAWING SHEET OF 15

Nov. 14, 1995

Process for the preparation of solid state materials and said materials

INVENTOR: Moser, William R., Hopkinton, Massachusetts

DETDESC:
... XRD which indicates the presence of several separate phases.

Another catalyst according to the present invention which can be produced with higher phase purity than a similar catalyst produced by conventional technology is a mixed copper oxide-zinc oxide catalyst on a support such as alumina. The XRD of the copper, zinc, aluminum oxide catalyst prepared by the process of the present invention exhibits bands at 31.7, 34.5, and 36.3 typical of ZnO (...

FOCUS - 3 OF 13 PATENTS

5,401,714

<=2> GET 1st DRAWING SHEET OF 1

N2

Mar. 28, 1995

Field-effect device with a superconducting channel

INVENTOR: Chaudhari, Preveen, Briarcliff Manor, New York
Mueller, Carl A., Hedingen, Switzerland
Wolf, Hans P., Zurich, Switzerland

... [*18] in said superconductive channel having a magnitude sufficient to modulate said carrier density across substantially the entire thickness of said channel.

[*19] 19. The device of claim 18, where said superconductive material is a mixed copper oxide, there being an insulating layer between said conductive layer and said channel.

[*20] 20. The device of claim 19, where said mixed copper oxide has a coherent length less than about 0.5 nm.

PAGE 4

FOCUS - 4 OF 13 PATENTS

5,340,796

<=2> GET 1st DRAWING SHEET OF 5

Aug. 23, 1994

Oxide superconductor comprising Cu, Bi, Ca and Sr

INVENTOR: Cava, Robert J., Bridgewater, New Jersey
Sunshine, Steven A., Berkeley Heights, New Jersey

SUM:
... typically having orthorhombic crystal structure, and the compounds that exhibit high (i.e., T c > 77K) temperature superconductivity generally contain [redacted] or more rare earth elements.

The discovery of high T c superconductivity in some mixed copper oxides also stimulated a search for compounds exhibiting still higher T c . Despite numerous reports of observation of T c above 100K (even above room temperature) in 1-2-
...

PAGE 5

FOCUS - 5 OF 13 PATENTS

5,318,950

<=2> GET 1st DRAWING SHEET OF 3

Jun. 7, 1994

Josephson device or junction and its production process

INVENTOR: Etrillard, Jackie, St Arnoult en Yuelines, France

N3

SUM:
... logic circuits such as those known under the name "SQUIDS" (superconducting quantum interference devices).

At present two procedures exist for producing Josephson junctions and make use of superconducting materials, generally based on mixed copper oxide.

The first method is based on the use of the natural junctions existing at the joints of the grains of superconducting ceramics produced at high temperatures, or artificial junctions, i.e. created by constriction (Dayem bridges, point contact diodes, etc.) or ...

FOCUS - 6 OF 13 PATENTS

5,296,458

<=2> GET 1st DRAWING SHEET OF 4

Mar. 22, 1994

Epitaxy of high T c superconducting films on (001) silicon surface

INVENTOR: Himpsel, Franz J., Mt. Kisco, New York

SUM:
... even farther the temperature range over which the materials are superconducting, as well as to understand the basic mechanisms for superconductivity in this class of materials.

Bednorz and Mueller first showed superconducting behavior in mixed copper-oxides, typically including rare earth and/or rare earth-like elements and alkaline earth elements, for example La, Ba, Sr, . . . , and having a perovskite-like structure. Materials including the so called "1-2- ...

FOCUS - 7 OF 13 PATENTS

5,278,140

<=2> GET 1st DRAWING SHEET OF 5

Jan. 11, 1994

Method for forming grain boundary junction devices using high T c superconductors

INVENTOR: Chaudhari, Praveen, Briarcliff Manor, New York
Chi, Cheng-Chung J., Yorktown Heights, New York
Dimos, Duane B., Montclair, New Jersey
Mannhart, Jochen D., Metzingen, New York, Federal Republic of Germany
Tsuei, Chang C., Chappaqua, New York

SUM:
... even farther the temperature range over which the materials are superconducting, as well as to understand the basic mechanisms for superconductivity in this class of materials.

Bednorz and Mueller first showed superconducting behavior in mixed copper-oxides, typically including rare earth and/or rare earth-like elements and alkaline earth elements, for example La, Ba, Sr, . . . , and having a perovskite-like structure. Materials including the so called "1-2- ...

PAGE 8

FOCUS - 8 OF 13 PATENTS

5,162,298

<=2> GET 1st DRAWING SHEET OF 5

Nov. 10, 1992

Grain boundary junction devices using high T c superconductors

INVENTOR: Chaudhari, Praveen, Briarcliff Manor, New York
Chi, Cheng-Chung J., Yorktown Heights, New York
Dimos, Duane B., Upper Montclair, New Jersey
Mannhart, Jochen D., Metzingen, New York, Federal Republic of Germany
Tsuei, Chang C., Chappaqua, New York

SUM:
... even farther the temperature range over which the materials are superconducting, as well as to understand the basic mechanisms for superconductivity in this class of materials.

Bednorz and Mueller first showed superconducting behavior in mixed copper-oxides, typically including rare earth and/or rare earth-like elements and alkaline earth elements, for example La, Ba, Sr, . . . , and having a perovskite-like structure. Materials including the so called "1-2- ...

PAGE 9

FOCUS - 9 OF 13 PATENTS

4,997,809

<=2> GET 1st DRAWING SHEET OF 1

Mar. 5, 1991

Fabrication of patterned lines of high T c superconductors

INVENTOR: Gupta, Arunava, Valley Cottage, New York

ABST:

15
2

... a high T c superconducting state, as by annealing in an oxygen atmosphere. This provides the patterned layer of high T c oxide superconductor. An example of a such a superconductor is a mixed copper oxide, such as Y1Ba2Cu30 7-x .

... [*7] visible wavelengths.

[*8] 8. The method of claim 1, where said energy beam is scanned across said coated layer.

[*9] 9. The method of claim 1, where said high T c oxide superconductor is a mixed copper oxide.

[*10] 10. The method of claim 1, where said substrate is heated during said irradiation step.

[*11] 11. The method of claim 1, where said removing step is accomplished by dissolving said nonirradiated areas.

[*12] 12. ...

... [*16] additional step of converting said patterned oxide precursor layer to a high T c superconducting state.

[*17] 17. The method of claim 16, where said high T c oxide superconductor is a mixed copper oxide.

[*18] 18. The method of claim 17, where said energy beam is a laser beam.

[*19] 19. The method of claim 15, where said solution is a nitrate solution.

[*20] 20. A method for providing a ...

FOCUS - 10 OF 13 PATENTS

4,956,335

<=2> GET 1st DRAWING SHEET OF 2

Sep. 11, 1990

Conductive articles and processes for their preparation

INVENTOR: Agostinelli, John A., Rochester, New York
Lubberts, Gerrit, Penfield, New York

DETDESC:

... earth alkaline earth copper oxide or other composition known to be convertible to a conductive crystalline phase can be employed in forming the coated articles of this invention. It has been observed that some combinations of substrates and mixed copper oxides are particularly attractive in exhibiting

higher T c levels and higher maximum temperatures at which superconductivity is in evidence.

One specifically preferred class of high T c articles described in V are those ... PAGE 11

FOCUS - 11 OF 13 PATENTS

4,880,771

<=2> GET 1st DRAWING SHEET OF 6

Nov. 14, 1989

Bismuth-lead-strontium-calcium-cuprate superconductors

INVENTOR: Cava, Robert J., Bridgewater, New Jersey
Rietman, Edward A., Berkeley Heights, New Jersey

SUM:
... crystal structure, and the compounds that exhibit high (ie., T c >/= 77 K.) temperature superconductivity generally contain one or more rare earth elements.

The discovery of high T c superconductivity in some mixed copper oxides also stimulated a search for compounds exhibiting still higher T c . Despite numerous reports of observation of T c above 100 K. (even above room temperature) in 1- ... PAGE 12

FOCUS - 12 OF 13 PATENTS

4,564,574

Jan. 14, 1986

Liquid developer for development of electrostatic images

INVENTOR: Uytterhoeven, Herman J., Bonheiden, Belgium
De Winter, Walter F., 's-Gravenwezel, Belgium
Marien, August M., Oevel, Belgium

SUM:
... a copper phthalocyanine C.I. 74,160), BRILLIANT CARMINE 6B (C.I. 18,850) and VIOLET FANAL R (trade-name of BASF, C.I. 42,535).

Typical inorganic pigments include black iron(III) oxide and mixed copper(II) oxide/chromium(III) oxide/iron(III) oxide powder, milori blue, ultramarine cobalt blue and barium permanganate. Further are mentioned the pigments described in the French Patent Specification Nos. ... PAGE 13

FOCUS - 13 OF 13 PATENTS

4,525,446

Jun. 25, 1985

Liquid developer for development of electrostatic images comprising onium salt polymer and an anion

INVENTOR: Uytterhoeven, Herman J., Bonheiden, Belgium
Gilliams, Yvan K., Hever, Belgium
De Winter, Walter F., 's-Gravenwezel, Belgium
Marien, August M., Oevel, Belgium
De Volder, Noel J., Edegem, Belgium

SUM:

... a copper phthalocyanine C.I. 74,160), BRILLIANT CARMINE 6B (C.I. 18,850) and VIOLET FANAL R (trade-name of BASF, C.I. 42,535).

Typical inorganic pigments include black iron(III) oxide and mixed copper(II) oxide/chromium(III) oxide/iron(III) oxide powder, milori blue, ultramarine cobalt blue and barium permanganate. Further are mentioned the pigments described in the French Pat. Nos. 1,394,061 ...

* 13 PAGES 220 LINES JOB 56930 100G6J *
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